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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,293	07/09/2003	Kazunori Komatsu	Q76485	7080

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EXAMINER

RICKMAN, HOLLY C

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/615,293

Applicant(s)

KOMATSU ET AL.

Examiner

Holly Rickman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 21-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Election/Restrictions***

2. Newly submitted claims 15-20 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 1-14, 21-22 and claims 15-20 are related as process of making and product made. In the instant case, the article as claimed can be made by a different process (i.e. one time scanning method versus multiple scanning step method). Furthermore, the two inventions are classified in different areas and the search required for the method claims is not required for the article claims.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 15-20 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

#### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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4. Claims 1-4 and 21-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as originally filed fails to provide support for the claim limitations directed to “the width of each of said plurality of tracks is greater [or smaller] than the length of one scanning with the electron beam” and “the length of one scanning is greater than the drawing diameter of the electron beam. The original disclosure fails to teach the claimed relationships between “length of one scanning with the electron beam” and “the width of each track or the drawing diameter of the electron beam.” If Applicant believes there is support for these recitations in the original disclosure, the examiner requests that Applicant explain how and where the disclosure is supportive.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 4 and 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 lacks antecedent basis for “the master image carrier” in lines 6 and 7-8.

Claim 10 is rendered indefinite by the phrase “at least one of iron alloys: FeCo and FeCoNi.” It is not clear whether the iron alloys are limited to the group consisting of FeCo and FeCoNi or are merely exemplified by these alloys. Clarification is requested.

***Claim Interpretation***

7. The recitation of “rectangular protruding portions” has been interpreted to mean that any surface of the protrusion is rectangular (i.e. top, side, bottom) or that the cross-section of the protrusion itself is rectangular. If Applicant does not agree with this interpretation, it is requested that the claims be drafted to more particularly define the meaning of the term or alternatively, the definition of the term as set forth in the disclosure or prior art be referenced on the record.

The recitation of “substantially straight end portions” has been interpreted to mean that any portion of said rectangular portion noted above is either straight or fairly close to being straight. This is a relative term and therefore, there is a greater degree of latitude that must be given in interpreting this term. In using this claim language, Applicant has made a distinction between the use of the term “straight” per se, which has the ordinary meaning of being free from curves, bends, irregularities, angles etc, and “substantially straight” which one must conclude can include any of these features within reason. That is to say, curves, irregularities etc can be present as long as one of ordinary skill in the art would view the feature in question as being close to straight.

***Claim Rejections - 35 USC § 102/103***

8. Claims 1-14 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by or, in the alternative under 35 U.S.C. 103(a) as obvious over Ishida (WO98/03972). (US 6347016 is an English equivalent to W098/03972 and is used herein as an English translation of the WO

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document. All references to Ishida refer to the US document. It is noted that W098/03972 was published on Jan 29, 1998.)

Claim 1 requires that at least one of the following conditions be satisfied “when the width of each of the plurality of tracks is smaller than the length of one scanning with an electron beam that forms the pattern, the width of each of said plurality of tracks is greater than drawing diameter of the electron beam” and/or “when the width of each of said plurality of tracks is greater than the length of one scanning with the electron beam, the length of the one scanning is greater than the drawing diameter of the electron beam.” These limitations define the track width of the product in terms of the process used to make said product. Thus, they are still considered to be process limitations in an article claim. These limitations do not appear to be further limiting in so far as the structure of the product is concerned. It has been held that even though a product claim is limited by and defined by a process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The applicant in the instant specification provides no data that establishes that a master medium produced using an electron beam having the claimed relationship to the track width is structurally different from that of a master medium produced by a different process using a different electron beam. Applicant's in their instant specification have discussed that laser ablation/lithography results in the protrusion portions of the pattern having rounded edges, whereas the method of the instant invention does not. However, Applicant has provided no data

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that establishes that the claimed electron beam method limitations result in a master medium that is structurally different from a master media that is taught by Ishida.

Bearing the above in mind, Ishida teaches a magnetic master comprising a substrate with a patterned magnetic layer on its surface. The pattern is formed in the surface of the master via lithography with a laser or an electron beam. In one embodiment, the width of the protuberance portions of the patterned magnetic layer (known to be equivalent to the track width) are 0.2microns (see figure 10). Ishida teaches that the protuberances should have a rectangular cross section, as shown in Figure 3 (column 15, lines 59-67). However, Ishida teaches that if the master having protuberances width of 0.2 micron is formed utilizing laser ablation/lithography, the protuberance will have curved edges, as the resolution of the developing process is insufficient (figure 10, lines 1-10). While the Ishida reference primarily focuses on the use of laser ablation/lithography because it is relatively inexpensive, Ishida teaches that the undesirable curved edge profile can be avoided through the use of a more advanced lithographic technique.

It is noted that Figure 1 of Ishida shows that the top surface of the surface protrusions are rectangular. In addition, the side portions shown in figure 10 read on the claim limitation directed to substantially straight end portions and do the top surface end portions of the rectangular surfaces of the protrusions shown in figure 1. With respect to the slightly curved edges of the side portions shown in Fig 10, it is the Examiner's contention that these lines fall within the scope of the term "substantially straight."

In the alternative, it is noted that Ishida teaches that the rectangular shaped section profile of the protrusion shown in Fig 3 is "difficult to form over a large area in a real master information carrier using regular photolithography." Col. 15, lines 59-67. The reference teaches

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that the edges of the upper side of the section profile “become rounded in general.” Col. 15, line 67. The reference goes on to teach that this problem of rounded edges can be solved by using advanced photolithography techniques (co. 16, lines 18-20). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to use an advanced photolithography technique to form protrusions having a rectangular section profile (i.e. no rounded edges).

The limitations of claims 2-4 merely further limit the process of claim 1 and do not appear to further limit the structure of the claimed product. Accordingly, these limitations are met as set forth above for claim 1.

#### ***Double Patenting***

9. The provisional double patenting rejection of claim 1 is withdrawn in view of Applicant’s submission of a terminal disclaimer over 10/192849.

#### ***Response to Arguments***

10. Applicant's arguments filed 1/21/05 have been fully considered but they are not persuasive.

Applicant argues that there is a distinction between the rectangular shaped protrusions of the present invention and the trapezoidal protrusions of Ishida. The examiner maintains that the claim limitations do not require that the protrusions have a rectangular side profile or cross-section. As such, Ishida meets this claim limitation for the reasons set forth above.



With respect to Exhibit A, Applicant argues that photograph 2-6 shows an embodiment of the present invention wherein the end portions of the protrusions are straighter than in photograph 1-4 which shows an embodiment made by a one time scanning method. The examiner cannot see any distinction between the end portions of the two photographs. They both appear to be rounded. Thus, the exhibit does not establish a patentable distinction between the present claims and Ishida.

Applicant maintains that the claims have been amended to define the width of the track as a structural limitation not a process limitation. The examiner does not agree. The track width is certainly a structural limitation. However, the limitations directed to the relationship of track width and various process parameters does not add any discernable structure to the claimed track width. The limitations are still process recitations whether related to the track width or not. There is no evidence of record that the claimed process parameters result in a product that is patentably distinct from that shown in the prior art. The two appear to be the same. When there is a substantially similar product, as in the applied prior art, the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

Applicant further argues that Ishida teaches away from using rectangular protrusions. The central issue here is what the meaning of "rectangular protrusions" is. As noted above, this is a fairly broad limitation that does not limit the rectangular shape to the side profile or cross-sectional shape of the protrusion. Thus, the examiner maintains for at least this reason that Ishida does not teach away from rectangular protrusions.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (571) 272-1514. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Holly Rickman  
Primary Examiner  
Art Unit 1773

April 14, 2005